Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims:

1. (Currently Amended) An apparatus for facilitating wireless communication in a network between a first communication device and a second communication device, said network including at least two bi-directional communication frequencies each using a time division duplex format of data transmission, comprising:

a receiver ~~capable of receiving~~ to receive signals on said at least two bi-directional communication frequencies, the receiver including a signal splitter configured to split the received signals~~simultaneously~~;

~~a signal detector operatively coupled to the receiver for determining if a signal is present on at least one of said at least two bi-directional frequencies~~;

a frequency converter ~~for converting~~ to convert ~~the~~ a signal present on one of said bi-directional frequencies to a converted signal on the other of said bi-directional frequencies;

a first additional splitter in communication with a first output of the signal splitter and a second additional splitter in communication with a second output of the signal splitter; ~~and~~

a signal detector including a first detector in communication with an output of the first additional splitter and a second detector in communication with an output of the second additional splitter, the signal detector configured to determine if the received signals include a signal on at least one of said at least two bi-directional frequencies;

a delay circuit including a first delay in communication with a different output of the first additional splitter and a second delay in communication with a different output of the second additional splitter; and

a transmitter ~~for transmitting~~ to transmit the converted signal on the other of said bi-directional frequencies.

2. (Currently Amended) The apparatus of claim 1, wherein the received signals comprise RF (radiofrequency) signals and wherein the apparatus further comprises one or more downconverter circuits to convert RF signals to IF (intermediate frequency) signals, and wherein said signal detector operates at ~~an~~ one or more intermediate ~~frequency~~frequencies.

3. (Currently Amended) The apparatus of claim 1, wherein the received signals comprise RF (radiofrequency) signals, and wherein said signal detector is for detecting the signal at a radio frequency.

4. (Currently Amended) The apparatus of claim 1, further comprising a first antenna and a second antenna, wherein the receiver is configured to receive ~~wherein said receiver is for receiving~~ the signals on said at least two bi-directional frequencies simultaneously ~~over a~~ from the first antenna, and

~~said~~ wherein the transmitter is ~~for transmitting~~ configured to transmit the converted signal on the other of said bi-directional frequencies ~~over~~ using the ~~a~~ second antenna.

5. (Original) The apparatus of claim 4, wherein said first and second antennas have respective polarizations that are largely orthogonal to one another.

6. (Currently Amended) The apparatus of claim 1, further comprising an antenna and an isolator, and wherein said receiver and said transmitter ~~share a single~~ both use the antenna, and wherein the antenna is ~~that is~~ connected to said receiver and said transmitter through ~~an~~ the isolator.

7. (Currently Amended) The apparatus of claim 1, further comprising a first directional antenna and a second directional antenna, wherein said receiver further includes first and second single frequency channel receivers configured to receive a first frequency channel and a second frequency channel respectively, wherein the transmitter comprises a transmitter for the first frequency channel and a transmitter for the second frequency channel, and wherein ~~where~~ the first single frequency channel receiver and ~~a~~ the transmitter for ~~a~~ the first frequency channel share ~~a~~ the first ~~directionally isolated~~ directional antenna, and the second single frequency

channel receiver and ~~a~~ the transmitter for the second frequency channel share ~~a~~ the second ~~directionally isolated~~ directional antenna.

8. (Cancelled)

9. (Currently Amended) The apparatus of claim ~~8~~1, wherein the delay circuit is ~~for reducing~~ configured to reduce truncation of the received signals to be transmitted to acceptable levels by compensating for detection delay during receipt of the signals ~~on said at least two bi-directional communication frequencies simultaneously~~ by said receiver.

10. (Currently Amended) The apparatus of claim ~~8~~1, ~~wherein each of said first and second frequency converters includes~~ further comprising a first mixer and a first local oscillator, said first mixer including a first input coupled to ~~an~~ the first output of said signal splitter ~~splitters~~ and a second input coupled to an output of said first local oscillator and an output in communication with the first additional splitter, and further comprising a second mixer and a second local oscillator, said second mixer including a first input coupled to the second output of the signal splitter and a second input coupled to an output of the second local oscillator and an output in communication with the second additional splitter.

11. (Currently Amended) The apparatus of claim 10, ~~further including~~ wherein the first additional splitter and the second additional splitter are intermediate frequency splitters~~, each of which includes an input connected to an output of one of said mixers, and detectors, each of which is respectively connected to a first output of one of said intermediate frequency splitters, said detectors for detecting a signal at said receiver based on a power comparison of signals at respective first outputs of said intermediate frequency splitters~~.

12. (Currently Amended) The apparatus of claim 10, wherein said ~~receiver further includes a detector for detecting a signal received at said receiver, said detector indicating~~ first detector and said second detector are configured to determine a beginning or ending of the received signals~~signal received by said receiver on one of said bi-directional frequencies~~.

13. (Currently Amended) The apparatus of claim 12, wherein said ~~detector is for comparing~~ first detector and said second detector are configured to compare the ~~signal received at the receiver~~ received signals to a threshold value to detect the signal.

14. (Currently Amended) The apparatus of claim 11, wherein said ~~detectors are for detecting~~ first detector and said second detector are each configured to detect the presence of the signal on one of said bi-directional frequencies, and wherein an output of ~~each of said detectors~~ said first detector and said second detector controls selection of one of ~~the~~ two associated intermediate frequencies for transmission of the converted signal by said transmitter upon detection of the signal on at least one of the bi-direction frequencies.

15. (Currently Amended) The apparatus of claim 11, further comprising:

~~delay circuits each connected to a second output of said intermediate frequency splitters, and to~~ a single switch ~~capable of coupling~~ configured to couple ~~one of the delay circuits~~ the first delay or the second delay to a frequency converter ~~for changing~~ to change a frequency of a coupled intermediate frequency signal to the other of said the bi-directional frequencies prior to transmission.

16. (Currently Amended) A wireless local area network ~~including~~ configured to communicate using at least first and second bi-directional communication frequencies, comprising:

a first communication device ~~capable of transmitting and receiving~~ configured to transmit and receive data on said first and said second bi-directional communication frequencies, wherein said first communication device is configured to transmit and receive ~~transmits and receives~~ data using a time division duplex format on either of said at least first or second bi-directional communication frequencies,

a second communication device ~~capable of transmitting and receiving~~ configured to transmit and receive data on said first and said second bi-directional communication frequencies, wherein said second communication device is configured to transmit and receive ~~transmits and receives~~ data using a time division duplex format on either of said at least first or second bi-directional communication frequencies,

a repeater ~~for improving~~ configured to provide a communication link between said first and said second communication devices, said repeater including a receiver configured to receive ~~capable of simultaneously receiving~~ a signal on either of said first and said second bi-directional communication frequencies, the receiver including a signal splitter configured to split the received signal, a first additional splitter in communication with a first output of the signal splitter and a second additional splitter in communication with a second output of the signal splitter, a signal detector operatively coupled to the receiver ~~that determines~~ configured to determine if the signal is present on one of said at least two bi-directional frequencies, the signal detector including a first detector in communication with an output of the first additional splitter and a second detector in communication with an output of the second additional splitter, a frequency converter operatively coupled to the signal detector for converting the signal present on the one of said bi-directional frequencies to a converted signal on the other of said bi-directional frequencies, a delay circuit including a first delay in communication with a different output of the first additional splitter and a second delay in communication with a different output of the second additional splitter, and a transmitter that transmits the converted signal on the other of said bi-directional frequencies.

17. (Currently Amended) The wireless local area network of claim 16, wherein at least one of said first or said second communication devices is configured to connect~~connected~~ to a wired network and serves as a wireless gateway.

18. (Currently Amended) The apparatus of claim 1, wherein the apparatus comprises a repeater. ~~A repeater for a network including using at least first and second bi-directional communication frequencies, comprising:~~

~~a receiver capable of receiving a signal on said at least first and second bi-directional communication frequencies simultaneously;~~

~~a transmitter for transmitting the received signal on said at least first and second bi-directional communication frequencies; and~~

~~an antenna operationally connected to said receiver and said transmitter, wherein said transmitter and said receiver operate on different frequencies and use a time division duplex protocol.~~

19. (Currently Amended) The ~~repeater~~ apparatus of claim 18, further including a circulator configured to receive ~~for receiving~~ a signal information packet ~~on~~ from said receiver on said first bi-directional communication frequency and ~~for transmitting~~ further configured to transmit the signal information packet using said transmitter on said second bi-directional communication frequency.

20. (Cancelled)

21. (Currently Amended) The ~~repeater~~ apparatus of claim 19, wherein said signal detector includes a power indicator ~~that detects the signal received at said receiver on one of said at least first and second bi-directional communication frequencies~~.

22. (Currently Amended) ~~A network operating on at least first and second bi-directional communication frequencies, comprising:~~The wireless local area network of claim 16, wherein the first communication device comprises a base unit~~for transmitting and receiving data on said first and second bi-directional communication frequencies using a time division duplex protocol on either of said at least first or second bi-directional communication frequencies~~, and wherein the second communication device comprises a client unit ~~capable of transmitting and receiving data on said first and said second bi-directional communication frequencies using the time division duplex protocol on either of said at least first or second bi-directional communication frequencies, and~~

~~a repeater capable of communicating between said base unit and said client unit using the time division duplex protocol on one of said at least first or second bi-directional communication frequencies different from that used by said client unit, the repeater further configured to receive data from the base unit and the client unit on the first and second bi-directional communication links simultaneously~~.

23. (Cancelled)

24. (Currently Amended) The wireless local area network of claim ~~23~~16, wherein the repeater is configured to determine a duration of ~~the~~ transmission of ~~the~~ a detected signal on one of the at least first and second bi-directional communication frequencies, wherein the duration is based at least in part on a time duration counter started when the detected signal is detected.

25. (Currently Amended) The wireless local area network of claim ~~23~~16, where said repeater further includes a first antenna and a second antenna, wherein said receiver is connected to ~~a~~ the first antenna and said transmitter is connected to ~~a~~ the second antenna, and wherein the first and second antennas have largely orthogonal polarizations.

26. (Currently Amended) The wireless local area network of claim ~~23~~16 where said receiver ~~for each of the at least first and second bi-directional communication frequencies~~ is connected to at least two switches ~~respectively~~, each of which is coupled to at least two directional antennas respectively and to an additional switch, which in turn is coupled to at least one transmitter.

27. (Currently Amended) ~~A wireless coverage extension device capable of receiving and transmitting wireless signals from/to a first wireless station device and to/from a second wireless station device, allowing the first and second wireless station device to communicate~~The apparatus of claim 1, further comprising ~~, the wireless coverage extension device including~~ an indicator ~~for providing~~ to provide visual indication when received signal levels from at least one of the ~~station devices~~ first and second communication devices are sufficient for communication between at least one of the first and second ~~wireless station~~ communication devices and the ~~wireless coverage extension device~~apparatus.

28. (Cancelled)

29. (Currently Amended) The ~~wireless coverage extension device~~ apparatus of claim ~~28~~1, where the ~~first and second bi-directional communication links~~ apparatus is configured to utilize 802.11 protocol or a derivative thereof.

30. (Currently Amended) The ~~wireless coverage extension device~~ apparatus of claim ~~29~~1,

further comprising a demodulator ~~for~~ to demodulate~~digital demodulating the detected signal~~ a signal detect by the signal detector during re-transmission thereof.

31. – 36. (Cancelled)

37. (New) A method of repeating signals comprising:

receiving received signals on a receiver, wherein the received signals include signals on a first frequency and signals on a second frequency;

splitting the received signals to produce a first output and a second output;

splitting the first output to produce a first detection output and a first delay output;

splitting the second output to produce a second detection output and a second delay output;

detecting whether the received signals include a signal on the first frequency or a signal on the second frequency;

based on detecting whether the received signals include a signal on the first frequency or a signal on the second frequency, transmitting a delayed signal at the other of the first frequency or the second frequency.

38. (New) The method of claim 37, wherein the received signals are RF signals, and wherein the method further comprises downconverting the received signals to one or more intermediate frequencies (IFs) prior to detecting whether the received signals include a signal on the first frequency or a signal on the second frequency.

39. (New) The method of claim 38, further comprising upconverting a delayed IF signal to an RF signal prior to transmitting the delayed signal at the other of the first frequency or the second frequency.

40. (New) An apparatus comprising:

means for receiving signals on said at least two bi-directional communication frequencies, the means for receiving signals comprising means for splitting the received signals;

means for converting a signal present on one of said bi-directional frequencies to a converted signal on the other of said bi-directional frequencies;

a first additional means for splitting signals in communication with a first output of the means for splitting the received signal;

a second additional means for splitting signals in communication with a second output of the means for splitting the received signal;

signal detecting means including a first detecting means in communication with an output of the first additional means for splitting signals and a second detecting means in communication with an output of the second additional means for splitting signals, the signal detecting means for determining if the received signals include a signal on at least one of said at least two bi-directional frequencies;

delay means including a first delay means in communication with a different output of the first additional means for splitting signals and a second delay means in communication with a different output of the second additional means for splitting signals; and

means for transmitting the converted signal on the other of said bi-directional frequencies.